

आईएफटीएम विश्वविद्यालय, मुरादाबाद, उत्तर प्रदेश
IFTM University, Moradabad, Uttar Pradesh
NAAC ACCREDITED

Academic Ordinance
for
Master of Computer Applications (MCA)
Programme

(Amended with CBCS as per UGC Guideline

&

(Approved by the Academic Council in the meeting held on 25 September 2021)

IFTM UNIVERSITY

(Established under U.P. Govt. Act No.24 of 2010 and approved under section 22 of UGC Act 1956)

Lodhipur Rajput, Delhi Road, Moradabad- 244102, U.P.

Telephone: 591-2360817, 2360818 **Email:** info@iftmuniversity.ac.in **Website:**

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IFTM University, Moradabad

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REGULATIONS

1. Short Title and Commencement

These regulations shall be called as “The Regulations for the Master of Computer Applications (MCA) Two Year Degree Program (CBCS) of the IFTM University, Moradabad”, latest revised from the Academic Year 2021-22. The regulations framed are subject to modifications from time to time by IFTM University, Moradabad.

2. Minimum qualification for admission

2.1 The Candidate who has passed Bachelor Degree or Equivalent with minimum 45% (40% for SC/ST) in any discipline from recognized board with Mathematics at 12th level.

2.2 The Intake of MCA course shall be fixed by the University.

2.3 Admission to MCA First Semester will be made as per the rules presented by Academic Council of the IFTM University, Moradabad.

2.4 Admission to MCA course cannot be claimed by any candidate as a matter of right. The admission committee of the University shall have power to refuse, reject or cancel any admission if it possesses sufficient reason to do so.

OR

The Eligibility Criteria outlined by AICTE/UGC for MCA is as given below:-

Passed BCA / B.Sc. in Computer Science / B.Sc. in Information Technology / B.Sc in Computer Technology / Bachelor Degree in Computer Science Engineering or equivalent Degree from a University recognized / certified by UGC / IFTM University / AIU.

OR

Passed B.Sc./B.Com./B.A.with Mathematics at 10+2 Level or at Graduation Level (with additional bridge Courses as per the norms of the concerned University).

Foreign National candidates, who apply through Ministry of Human Resource Development, Government of India, are eligible to apply provided that they possess the same minimum qualification.

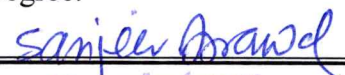
3. Duration

3.1 Total duration of the MCA Course shall be 2 Years, Each Year comprising two semesters.

3.2 The maximum time allowed for completing the MCA course shall be 4 (four) years, failing which he/she shall not be allowed to continue for his/her MCA Degree.



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3.3 Each semester shall consist of not less than 90 working days. The odd semesters shall be conducted from the month of June/July to November/December and the even semesters shall be conducted from December/January to May/June in every calendar year.

4. Medium of instruction and examinations

Medium of instruction and examination shall be in English.

5. Curriculum

5.1 The 3 year curriculum has been divided into 6 semesters. Semester 1st to 6th shall include lectures, tutorials, practical, seminars and project works seminars as defined in the scheme of instruction and examination issued by the University from time to time.

5.2 The curriculum will be also including such other curricular, cocurricular and extracurricular activities as may be prescribed by the University from time to time.

6. Attendance and progress

6.1 The attendance of student shall be reckoned from the date of his /her registration in the class.

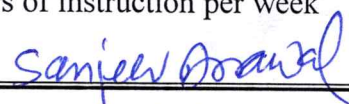
6.2 Each student is normally required to attend all the lectures, tutorials and lab classes in every subject, also the curricular and co-curricular activities. However, for each subject a minimum attendance of 75% will be necessary. The Dean/Director of the concerned faculty may condone the absence, on medical reasons, further, up to a maximum 15% limit.

6.3 A student, who fails to achieve the prescribed minimum attendance as per the provisions of article 6.2 above, shall not be allowed to appear at the Even Semester Examination and, shall be deemed to have been detained. The list of students to be detained shall be forwarded by the Deans/Director/HOD's to V.C. for necessary action. However under very special circumstances, the Deans/Director/HOD's of the concerned faculty will review and forward those genuine cases which however fall below reasonable and prescribed attendance level with their recommendation for reconsideration through Deans/Director/HOD's to V.C. for a final decision.

7. Program/Course credit structure

As per the philosophy of Credit Based Semester System, certain quantum of academic work viz. theory classes, practical classes, project report, internship etc. are measured in terms of credits. On satisfactory completion of the courses, a candidate earns credits. The amount of credit associated with a course is dependent upon the number of hours of instruction per week


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in that course. Similarly, the credit associated with any of the other academic, co/extra-curricular activities is dependent upon the quantum of work expected to be put in for each of these activities per week.

7A. Credits and Grade System

(a) All programmes shall have credits associated with them as per their Lecture/Tutorial/Practical (LTP) structure and shall be determined as follows:

- One lecture hour per week per semester shall be assigned one credit.
- One practical hour per week shall be assigned half credit.

However, the credits associated with every programmes will be a whole number, i.e., wherever the sum comes out to be in half credit on calculation following the aforesaid process, the half shall be rounded to the next whole number.

(b) The letter grades based upon the overall marks obtained in a subject will be as follows:

S.No.	Marks	Letter Grade	Grade Point
1.	>=90	A+	10
2.	80-89	A	9
3.	70-79	B+	8
4.	60-69	B	7
5.	50-59	C+	6
6.	40-49	C	5
7.	35-39	D	4
8.	30-34	E	2
9.	<30	F	0

'E' & 'F' Grade will be treated as Carry Over Paper.

In addition to the above grades, there shall be two more letter grades 'I' and 'AB' which shall stand for Incomplete and Absent Grades, respectively.

(c) Semester Grade Point Average (SGPA)

The SGPA is a weighted average of the grade points earned by a student in all the papers credited and described his/her academic performance in a semester. If the grade points associated with the letter grades awarded to a student are $g_1, g_2, g_3, \dots, g_k$, etc. and the corresponding credits are $c_1, c_2, c_3, \dots, c_k$, the SGPA is given by :



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$$SGPA = \frac{c_1g_1 + c_2g_2 + c_3g_3 + \dots + c_kg_k}{c_1 + c_2 + c_3 + \dots + c_k}$$

Where, **k** is the number of papers for which the candidate remains registered during the semester.

(d) Cumulative Grade Point Average (CGPA)

The Cumulative Grade Point Average (CGPA) indicates the overall academic performance of a student in all the papers registered in that particular academic year. It is computed in the same manner as the SGPA, considering all the papers (say, n), and is given by:

$$CGPA = \frac{\sum_{i=1}^n c_i g_i}{\sum_{i=1}^n c_i}$$

(e) Final CGPA

It is the weighted average of the CGPA of all years of study.

(f) Percentage equivalence of CGPA/Final CGPA

The conversion of CGPA/Final CGPA to exact percentage of marks does not have perfect rationale. However, its equivalent at best can be arrived at by multiplying by 10.00.

7B. Change of Grade already awarded

Letter Grade 'E' will be changed into Letter Grade 'D' up to a maximum of 03 papers at the time of promotion to the next academic year provided he/she can be declared to have passed the academic year without any carry over paper, by changing the Grade.

8. Academic work

A regular record of attendance both in Theory and Practical shall be maintained by the teaching staff of respective courses.

9. Course of study

The course of study for M C A shall include Semester-Wise Theory & Sessional. The number of hours to be devoted to each theory, tutorial and practical course in any semester shall not be less than 40 sessions.



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Bridge Courses

FOR

STUDENTS

Passed B.Sc./ B.Com./ B.A. with Mathematics at 10+2 level or at Graduation Level
Master of Computer Applications (MCA)

(W. E. F. 2021-22)

Department of Computer Applications
School of Computer Science and Applications
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Moradabad -244102 U.P
India

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Bridge Courses

DURATION: Four Semesters

L-T-P stands for number of contact hours as Lecture-Tutorial-Practical in a week.

Bridge Courses (BC):

S.No	Course Code	Course Title	Course Type	Marks			L-T-P
				Internal Assessment	Semester Exam	Total	
1	MBC01PCT	Discrete Mathematics	BC	30	70	100	3-1-0
2	MBC02PCT	Information & Communication Technology	BC	30	70	100	3-1-0
3	MBC03PCT	Introduction to Computer System & Hardware	BC	30	70	100	3-1-0
4	MBC04PCP	Management Information System	BC	30	70	100	3-1-0
<i>Total</i>							<i>12-4-0</i>

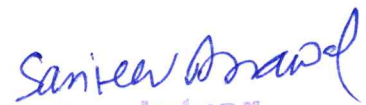
Bridge Courses:

1. For Bridge course students are required to score at least the minimum marks i.e 35% marks both in theory and practical separately. These marks however will not be added to the final score of semester / programme.
2. For Bridge course, only cleared or not cleared will be mentioned in the mark sheet. No separate certificate will be issued.
3. Total Duration of Completion of MCA Program will be Four Semester with maximum attempt of four more semesters and same applies for the Bridge course.
4. No Grace marks for the bridge course.
5. Grace marks for MCA program subjects will be given as per university examination system likewise other PG program/s.
6. Exam paper pattern will be as follows.
 1. Five big questions of (10 marks each) of 50 marks (2 questions from each Unit with an OR option).



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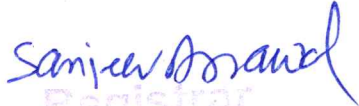
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PROGRAMME STRUCTURE:

Course Type	Abbreviation	Credits
Foundation Course	FC	04
Core Course	CC	44
Discipline Specific Elective	DSE	16
Generic Elective(Interdisciplinary)	GE	04
Ability Enhancement Course	AEC	02
Projects	PROJ	14
Laboratory Courses	Lab	14
GP		04
Total Credits		102

L-T-P stands for number of contact hours as Lecture-Tutorial-Practical in a week.


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Semester Courses:

Year -I Semester-I

S. No	Course Code	Course Title	Course Type	PERIODS			SESSIONAL				ESE	TOTAL	CREDITS
				L	T	P	TA	AT	CT	Total			
1.	MCAFC-11	Programming in C	FC	3	1	0	5	5	10+10	30	70	100	4
2.	MCACC-12	Operating System	CC	3	1	0	5	5	10+10	30	70	100	4
3.	MCACC-13	Data Structure using C	CC	3	1	0	5	5	10+10	30	70	100	4
4.	MCAGE-01	Generic Elective	GE	3	1	0	5	5	10+10	30	70	100	4
5.	MCACC-14	Computer Organization & Architecture	CC	3	1	0	5	5	10+10	30	70	100	4
PRACTICALS/Seminar/Projects													
6.	MCAAE-01	Office Automation Software Lab	AEC	0	0	4	15	15	30	30	70	100	2
7.	MCAP-11	Computer Organization & Architecture Lab	LAB	0	0	4	15	15	30	30	70	100	2
8.	MCAP-12	Data Structure Lab	LAB	0	0	4	15	15	--	30	70	100	2
9.	MGP-101	G.P		--	--	--	--	--	--	100	---	100	1
		Total		17	3	12	--	--	---	340	560	900	27

Generic Elective(GE)		
S. No	Course Code	Course Title
1.	TPSD301/401	Professional Skill Development-II
2.	MTB103T	Bioinformatics
3.	MBA 101	Management Concepts & Organizational Behaviour
4.	MGET-01(4)	Foundation of Mathematics



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Year –I Semester-II													
S. No	Course Code	SUBJECT	Course Type	PERIODS			SESSIONAL				ESE	TOTAL	CRED ITS
				L	T	P	TA	AT	CT	Total			
1.	MCACC -21	Computer Network	CC	3	1	0	5	5	10+10	30	70	100	4
2.	MCACC-22	Object Oriented Programming using Java	CC	3	1	0	5	5	10+10	30	70	100	4
3.	MCACC-23	Software Engineering	CC	3	1	0	5	5	10+10	30	70	100	4
4.	MCACC-24	Database Management Systems	CC	3	1	0	5	5	10+10	30	70	100	4
5.	MDSET -01	Discipline Specific Electives-1	DSE	3	1	0	5	5	10+10	30	70	100	4
PRACTICALS/Seminar/Projects													
6.	MCAP-21	Java Programming Lab	LAB	0	0	4	15	15	30	30	70	100	2
7.	MCAP-22	Database Management Systems Lab	LAB	0	0	4	15	15	30	30	70	100	2
8.	MCADS-01P	Lab Based on DSE-1	LAB	0	0	4	15	15	30	30	70	100	2
9.	MGP-201	G.P		--	--	--	--	--	--	100	---	100	1
		Total		15	5	12	--	--	---	340	560	900	27

Discipline Specific Electives-1		
S. No	Course Code	Course Title
1.	MDSET-01(1)	Computer Graphics & Animation
2.	MDSET-01(2)	.Net Framework using C#
3.	MDSET-01(3)	Software Testing & Quality Assurance
4.	MDSET-01(4)	Computer Based Numeric & Statistical Techniques


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Year -II Semester-III

S. No	Course Code	SUBJECT	Course Type	PERIODS			SESSIONAL				ESE	TOTAL	CREDITS
				L	T	P	TA	AT	CT	Total			
1.	MCACC-31	Data Science	CC	3	1	0	5	5	10+10	30	70	100	4
2.	MCACC-32	Python Programming	CC	4	0	0	5	5	10+10	30	70	100	4
3.	MCACC-33	Formal Language & Automata Theory	CC	3	1	0	5	5	10+10	30	70	100	4
4.	MDSET -02	Discipline Specific Electives-2	DSE	3	1	0	5	5	10+10	30	70	100	4
5.	MDSET -03	Discipline Specific Electives-3	DSE	3	1	0	5	5	10+10	30	70	100	4
PRACTICALS/Seminar/Projects													
6.	MCAP-31	Python Programming Lab	LAB	0	0	4	15	15	30	30	70	100	2
7.	MCAP-32	Mini Project**	PROJ	0	0	8	15	15	30	30	70	100	4
8.	MCADS-03P	Lab Based on MDSET-03	LAB	0	0	4	15	15	30	30	70	100	2
9.	MGP-201	G.P		--	--	--	--	--	--	100	---	100	1
		Total		16	4	16	--	--	---	340	560	900	29

Discipline Specific Electives-2			Discipline Specific Electives-3		
S. No	Course Code	Course Title	S. No	Course Code	Course Title
1.	MDSET-02(1)	Mobile Computing	1.	MDSET-03(1)	Cloud Computing
2.	MDSET-02(2)	Natural Language Processing	2.	MDSET-03(2)	Digital Image Processing
3.	MDSET-02(3)	Internet of Things	3.	MDSET-03(3)	Big Data
4.	MDSET-02(4)	Client Server Computing	4.	MDSET-03(4)	Deep Learning


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Year -II Semester-IV

S. No	Course Code	SUBJECT	Course Type	PERIODS			SESSIONAL				ESE	TOTAL	CRE DITS
				L	T	P	TA	AT	CT	Total			
1.	MCACC-41	Web Technology	CC	3	1	0	5	5	10+10	30	70	100	4
2.	MDSET -04	Discipline Specific Electives-4	DSE-4	3	1	0	5	5	10+10	30	70	100	4
PRACTICALS/Seminar/Projects													
3.	MCAP-41	Major Project	PROJ	0	0	20	--	--	--	200	300	500	10
4.	MGP-401	G.P		--	--	--	--	--	--	100	---	100	1
		Total		6	2	20	--	--	---	360	440	800	19


ELECTIVE SUBJECT: ** Qualifying Non-credit Course** The Mini Project (6 weeks) conducted during summer break after II semester and will be assessed during III semester. The Course will be carried out at the Institute under the Guidance of a Faculty Members.

Discipline Specific Electives-4		
S. No	Course Code	Course Title
1.	MDSET-04(1)	Cryptography and Network Security
2.	MDSET-04(2)	Blockchain Architecture
3.	MDSET-04(3)	Digital Marketing
4.	MDSET-04(4)	Privacy & Security in Online Social Media

**The Specialization groups offered by the school may be subject to change as per the requirement of the program and availability of the resources.*


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10. Examinations/Assessments

10A. Internal/ Sessional Examination

- (a) The minimum Grade required to pass in each Theory & Practical paper is 'GRADE D'.
- (b) A candidate, in order to pass must satisfy the requirement of Minimum CGPA of 4.50 in a particular academic year inclusive of both semesters of that academic year subject to conditions of clause 10D.
- (c) In case of audit/qualifying paper the minimum Grade required to pass is Grade D. However, the Grade obtained in audit paper shall not be included in SGPA.

10B. End-Semester Examination

There will be two End Semester Examinations in all theory and project subjects viz. Odd (I, III) Semester Examination and Even (II, IV) Semester Examination in an academic year.

10C. Carry Forward of Marks

In case, if a student gets the back in a course/paper, the sessional marks of the subject concerned will be carried forward in the total of marks when he re-appears for the examination of the course in which he has got the back.

10D. Heads of Passing

- (a) The minimum passing marks in each theory subject (including Internal/ Sessional marks) will be 35%.
- (b) The minimum passing marks in each comprehensive viva/project will be 50 %.
- (c) A student, in order to pass must satisfy the following:
Minimum 45% marks in aggregate of a particular academic year inclusive of both semesters of that academic year subject to the conditions of the clause 7B.

10E. Carry Over System

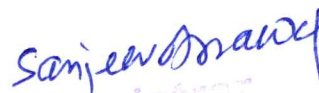
Maximum number of carry over papers (Theory/viva/project) permissible for promotion to next year will be 06.

10F. Promotion

- (a) A candidate satisfying all the requirements under clause 10A shall be promoted to the next academic year of study.



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- (b) A candidate shall be eligible for provisional promotion with carryover (PCP status) to the next academic year of study provided he/she fails to satisfy the requirements of clause 10A(a) in not more than permissible carry over paper as mentioned in clause 10D.
- (c) If a candidate satisfies the requirement of clause 10A(a) but fails to satisfy the requirement of 10A(b) he/she shall be eligible for provisional promotion with carryover (PCP-A {aggregate} status). He/she may choose up to a maximum of any 04 theory papers of that particular academic year as per his/her choice to pass the examination of that.

10G. Ex-studentship

A candidate opting for ex-studentship shall be required to appear in all the theory/practical/viva papers in the end semester examinations of both semesters/ annual examination of the same academic year. However, the sessional marks of theory & practical both shall remain the same as those secured earlier.

11. Evaluation of Performance

- (a) **Programmes:** Evaluation of performance of the students in a programme shall be a continuous process based on their performance in the class test, quizzes, assignments and the end semester examinations.

Theory papers in semester system (Maximum Marks: 100)

The evaluation will be done through two class test and one end semester examination.

This will be in addition to quizzes, assignments, attendance, etc. Each class test will carry a weightage of 10 marks, and the end semester examination will carry a weightage of 70 marks. The remaining 10 marks will be awarded on the basis of attendance and performance in quizzes and assignments.

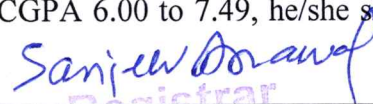
- (b) **Summer Training, Project Report, Seminar etc.**

Industrial/Summer Training, Project Report, Seminar, and other learning oriented activities shall have associated maximum marks and credits, as stated in the syllabus.

12. Award of Division

- (a) The division shall be awarded on the basis of final year result.
- (b) If a student passes all examinations and secure minimum Final CGPA 4.50 to 5.99, he/she shall be eligible for the award of SECOND DIVISION.
- (c) If a student passes all examinations and secure minimum Final CGPA 6.00 to 7.49, he/she shall be eligible for the award of FIRST DIVISION.


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- (d) If a student passes all examinations in first attempt without change of Grade and secures minimum Final CGPA 7.50 & above, he/she shall be eligible for the award of FIRST DIVISION WITH HONOURS.

13. Scrutiny and Re-evaluation

- (a) Scrutiny shall be allowed in only theory papers, in which Re-totalling of the marks awarded will be done and only unchecked answers (if any) will be evaluated.
- (b) Re-evaluation of theory/practical papers is not permitted.

14. Unfair Means

Cases of unfair means shall be dealt as per the rules of the University.

15. Result

- (a) The result of a candidate shall be declared on the basis of the performance of both semesters of the same academic year.
- (b) Result of the final year shall be declared on the basis of working out Final CGPA which is the weighted average of CGPA of all years of the study.

16. Improvement

There shall be no provision of Improvement examination in all the courses running in the University.

17. Grade Card

- (a) A copy of the Grade Card shall be issued to each student at the end of each academic year. The duplicate copy, if required can be obtained on payment of prescribed fee.
- (b) The Grade Report Card of a student may be withheld if he/she has not paid his/her dues or if there is a case of indiscipline pending against him/her or for any other such reasons.

18. Re-Admission

A candidate may be allowed for re-admission provided he/she satisfies one of the following conditions:

- (a) A candidate is declared fail.
- (b) A candidate promoted with carry over papers and opts for re-admission.



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